

## REMARKS

It is submitted that the Examiner has not properly interpreted the teaching of the Clarke et al. '868 patent, in that while both Clarke and the invention at hand share certain similarities such as the use of a dye, a polymeric film, an analyte and a light source, the methodologies and equipment are not the same.

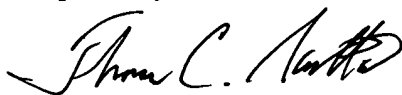
In Clarke, the reagent dye undergoes a change in optical absorption in the presence of the analyte, resulting in heating over a localized region. The reagent dye is deposited directly onto an electrode. This heating is sensed by the transducer, which consists of a polyethylene layer sandwiched between two electrodes, in effect a capacitor. The methodology and equipment measures the pyro-electric effect (electricity from heat), in that with a charged capacitor at constant charge, the heat changes the polarization of the di-electric constant and the voltage changes, which is then detected.

In the invention at hand, no pyro-electric effects need occur, as a change in temperature is not measured. Rather, the invention at hand is a direct measurement of charge movement, i.e., the electric field. Suitable dyes in Clarke for a given analyte will not necessarily be suitable for use in the invention. The invention measures a photo-ionization event through either isometric change or the ejection of electrons, protons or  $\text{OH}^-$  ions, not heat radiation. In the invention, the photo induced charge movement is detected in the dye complex itself. The dye is deposited on the polymer film, one electrode is disposed on the opposite side of the film and the other electrode is spaced apart, such that the film, the dye, and the analyte solution are between the two electrodes. Thus in the invention, the sensor is ordered electrode/film/dye/analyte/electrode, while in Clarke the sensor is ordered electrode/film/electrode/dye/analyte.

The language of claims 1 and 10 require that the sensor detect photo-induced charge movements, and this language alone patentably distinguishes the claims at hand from the disclosure of Clarke, wherein the sensor detects heating (col. 4, lines 25 - 34). Thus, Clarke does not anticipate nor make obvious the invention at hand, since no disclosure in Clarke would direct one to measure photo-induced charge movements through equipment that is arranged in a completely different manner.

It is respectfully submitted that the claims as amended are patentable, on the basis of the above remarks, and reconsideration and subsequent passage for allowance is hereby requested.

Respectfully submitted,



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